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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ROBERT BAER, LON DEHAITRE, CHARLES KADISH,  
MARK ROMANO, and MICHAEL TIPPS

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Appeal 2009-012870  
Application 10/752,431  
Technology Center 3600

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Before STEFAN STAICOVICI, GAY ANN SPAHN and  
MICHAEL C. ASTORINO, *Administrative Patent Judges*.

ASTORINO, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF THE CASE

The Appellants appeal under 35 U.S.C. § 134 from the Examiner's decision finally rejecting claims 1-3 and 5-9. More specifically, the Examiner rejects: claims 1, 3, and 5-8 under 35 U.S.C. § 103(a) as being unpatentable over Craven (US 6,666,638 B2, issued Dec. 23, 2003), Fukubayashi (US 5,044,855, issued Sept. 3, 1991), and Lipsey<sup>1</sup> (US 112,935, issued Mar. 21, 1871)<sup>2</sup>; and claims 2 and 9 under § 103(a) as being unpatentable over Craven, Fukubayashi, Lipsey<sup>3</sup> and DeHaitre (US 5,516,248, issued May 14, 1996). Claim 4 has been cancelled. We have jurisdiction over the appeal under 35 U.S.C. § 6(b). The Appellants' representative presented oral argument for this appeal on September 20, 2011.

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<sup>1</sup> The reference name "Linsey" in the Appeal Brief, the Examiner's Answer, and the Reply Brief is incorrect. The correct name, as presented three times on page 2 of the reference, is Lipsey.

<sup>2</sup> In the Examiner's Answer at page 7, and the Appeal Brief at page 5, the Examiner lists claims 5, 6 and 8 as rejected under § 103(a) as unpatentable over Craven, Fukubayashi, and case law. Claims 5, 6 and 8 are each dependent upon claim 1, and the Examiner rejects claim 1 under § 103(a) as unpatentable over Craven, Fukubayashi, and Lipsey. Thus, the rejection of claims 5, 6 and 8 must include Lipsey as well. Also, the addition of case law is reasoning that supports the Examiner's conclusion of obviousness. As such, we have omitted the term "case law" from the ground of rejection of claims 5, 6, and 8 as recited in the Examiner's Answer at page 7.

<sup>3</sup> In the Examiner's Answer at page 6, and the Appeal Brief at page 5, the Examiner lists claims 2 and 9 as rejected under § 103(a) as unpatentable over Craven, Fukubayashi, and DeHaitre. Claims 2 and 9 are each dependent upon claim 1, and the Examiner rejects claim 1 under § 103(a) as unpatentable over Craven, Fukubayashi, and Lipsey. Thus, the rejection of claims 2 and 9 must include Lipsey as well, and we have corrected the ground of rejection to be under § 103(a) as unpatentable over Craven, Fukubayashi, Lipsey and DeHaitre.

We AFFIRM.

Claims 1 is the sole independent claim, and representative of the claims on appeal. Claim 1 is recited below with italics added.

1. A fastener for composite material comprising:
  - a shaft having a longitudinal axis,
  - a head at a first end of the shaft, the head having *an undercut edge* which is inverted in a circular arc towards the head, the undercut edge being furthest from a top surface of the head at an outside portion of the head furthermost from the longitudinal axis, the undercut edge being closer to the top surface between the outside portion and the longitudinal axis,
  - a point at the other end of the shaft,
  - a first portion of the shaft adjacent the point being threaded, and extending over a portion of the total length of the shaft, the threads and first portion of the shaft having *three radial lobes*, and
  - a second portion of the shaft adjacent the head not being threaded, said second portion having a plurality of spaced rings, the spaced rings reducing mushrooming of the composite material when the fastener is used in the composite material.

## ISSUES

The Appellants argue claims 1, 3 and 7 as a group. App. Br. 5. The Appellants also argue claims 2 and 9 as a group and claims 5, 6 and 8 as a group, but rely on the arguments provided for independent claim 1 for both groups. App. Br. 12. The issue presented by this appeal is:

whether the combination of Craven, Fukubayashi, and Lipsey teachings would have rendered obvious the recitations of claim 1?

## FINDINGS OF FACT

The record supports the following findings of fact (“FF”) by a preponderance of the evidence.

1. We adopt and incorporate by reference the Examiner’s findings in the Examiner’s Answer at page 3, line 20, beginning “Craven teaches” and ending at page 4, line 19, “having three radial lobes (see Fig. 2)(col. 1, lines 32-51).”
2. We adopt and incorporate by reference the Examiner’s findings in the Examiner’s Answer at page 5, line 4, beginning “With regard to the latter” and ending at page 5, line 10, “(inside middle of a) the longitudinal axis.”
3. We adopt the Examiner’s finding in the Examiner’s Answer at page 8 that “col. 5 lines 27-30 of Fukubayashi, . . . state[s] ‘[t]he screw thread 4 formed over the first portion 3a, the second portion 3b and the third portion 3c is of a symmetric triangular shape’.”

## ANALYSIS

Initially, we note that, in the Appeal Brief at pages 6-10, the Appellants provide a background of the invention and assert differences between the teachings of Craven, Fukubayashi, and Lipsey. Based on these asserted differences, the Appellants contend that the references cannot reasonably be combined. App. Br. 10.

First, the Examiner modifies Craven’s fastener to include Fukubayashi’s disclosure of fasteners with threads and a portion of the shaft having three radial lobes. Ans. 4, FF 1. The Appellants acknowledge “that column 5, lines 27-30 of Fukubayashi explain[s] that the first portion 3A, the

second portion 3B and the third portion 3B is of a symmetric triangular shape” (Reply Br. 1), but contend that the Examiner “has not established that one of ordinary skill would recognize that . . . a fastener designed for installation in pilot holes to fasten thin boards (Fukubayashi) would be useful when fastening composite material without pilot holes, and without mushrooming.” App. Br. 11. This contention is not persuasive at least because, as the Examiner reasons at page 8 of the Answer, fasteners with threads and a portion of the shaft having three radial lobes “allows for the screw to be more easily driven with a lower driving torque; also decreasing slipping force and thereby increasing the holding torque of the screws.” *See Ans.* 4-5, and *Ex Parte Obiaya*, 227 USPQ 58, 60 (BPAI 1985)(“The fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.”)

Second, the Examiner modifies Craven’s fastener to include Lipsey’s disclosure of a fastener head having an undercut edge as recited in claim 1. *See Ans.* 5, FF 2. The Appellants contend that Lipsey’s “screw head was designed with a ‘sharp’ outer edge to cut the fibers (col. 1, lines 18 and 24), not press the fibers apart . . . [and] the examiner has not established that one of ordinary skill would recognize that an undercut head in a wood screw made in 1871 (Li[p]sey) would prevent mushrooming and splitting of today’s composite materials.” App. Br. 11. This contention is not persuasive at least because, as the Examiner points out at page 9 of the Answer, modifying the head of a fastener to incorporate Lipsey’s undercut edge prevents splitting a material and leaving the remainder “flat and

Appeal 2009-012870  
Application 10/752,431

smooth, without the trouble of countersinking . . . (see fig. 1 compared with prior art screw of fig. 3).” *See Ans.* 5, and *Obiaya*, 227 USPQ at 60.

In this case, the Examiner has articulated reasoning with some rational underpinning to support the legal conclusion of obviousness for claim 1. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Turning to the grounds of rejection of claims 2 and 9 under § 103(a), and claims 5, 6, and 8 under § 103(a), these grounds of rejection are sustained for the same reasons as claim 1.

## CONCLUSION

The combination of Craven, Fukubayashi, and Lipsey teachings would have rendered obvious the recitations of claim 1. As such, we sustain the rejection of claims 1, 3 and 5-8 under § 103(a) as being unpatentable over Craven, Fukubayashi, and Lipsey; and claims 2 and 9 under § 103(a) as being unpatentable over Craven, Fukubayashi, Lipsey and DeHaitre.

## DECISION

We AFFIRM the Examiner’s decision rejecting claims 1-3 and 5-9.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

Klh